

Use Attainability Analysis  
for  
WBID 1337 Little Clear Creek  
Submitted by  
SES, Inc.  
To  
Missouri Department of Natural Resources  
Water Protection Program  
Date Received: June 4, 2007

**Field Data Sheets for Recreation Use Stream Surveys**  
**Data Sheet A - Water Body Identification**  
(For water body being surveyed)

**Water Body Information**

Water Body Name:	Little Clear Creek	WBID:	1337
8 digit HUC code:	10290105	County:	Vernon
Upstream Legal Description	34N 30W 8		
Downstream Legal Description	34N 30W 9		
Number of Sites Evaluated	3		
List all site numbers, listed upstream to downstream	1,2,3		

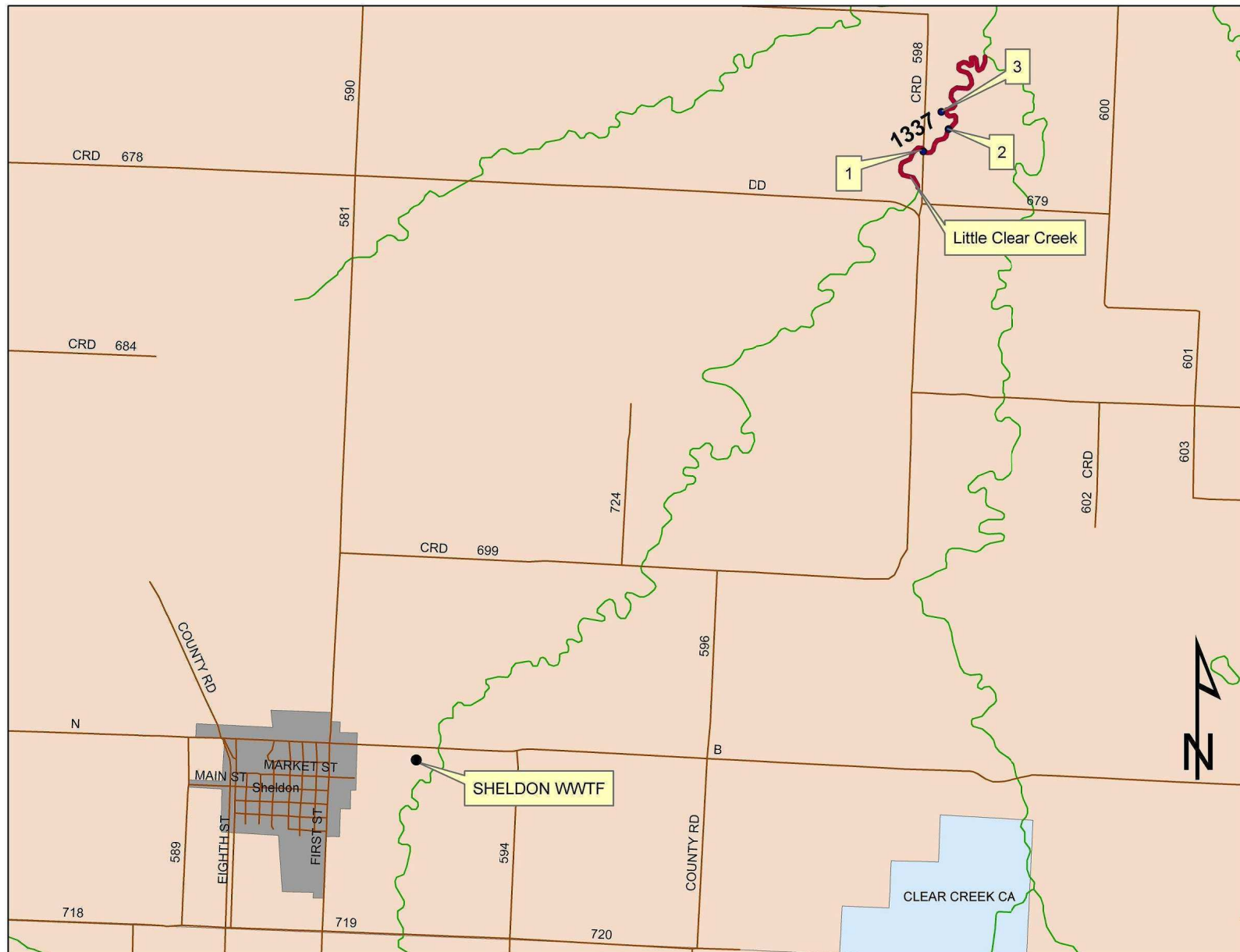
**Discharger Facility Information**

Discharger Facility Name(s):	Sheldon WWTF
Discharger Permit Number(s):	MO0040177

**UAA Surveyor**

Name of Surveyor:	Nolan Pringle	Telephone Number:	(903)307-0046
Organization/Employer:	SES, Inc.		
Position:	Field Team Leader		

Signed: \_\_\_\_\_ Date: \_\_\_\_\_



**Field Data Sheets for Recreational Use Stream Surveys**  
**Data Sheet B - Site Characterization**  
**(must be completed for each site)**

WBID 1337  
 Site # 1

Date and Time: 5/22/2007 9:40

Current Weather Conditions sunny, clear

Weather Conditions for Past 10 days: Rain showers in the area on 5/15

Drought Conditions? No

Site Location (e.g. road crossing) at road crossing

GPS Mark: 60

Upstream Photo 117 Downstream Photo 116

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<b>None of the Above</b>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	<b>None of the Above</b>	Other	

**Indications of Human Use**

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	<b>None of the Above</b>

**WBID #** 1337      **Site #** 1  
**Mark #** 60      **Dissolved Oxygen (ppm)** 11.6  
**Upstream Views Physical Dimensions:** Is there any water present at this view? yes  
 If so, is there an obvious current? yes

**Select one of the following channel features:**

	% of Channel Feature				
Riffle	15				
Run	0				
Pool	85				

**Downstream View's Physical Dimensions:** Is there any water present at this view?

If so, is there an obvious current?


Substrate:

% Cobble	% Gravel	% Sand	% Silt
15	20	0	30
% Mud/Clay	% Bedrock		
35	0		

**Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)**

Water grasses. Not much vegetation along banks. No floating algae. Algae on rocks.

**Water Characteristics**

Odor      Sewage    Musky    Chemical    **None**    Other  
 Color      **Clear**      Green    Gray      Milky    Other  
 Bottom Deposit    Sludge    Solids    Fine Sed.    None    **Other: leaves**  
 Surface Deposit    Oil      **Scum: in 1**    Foam    **None**    Other

**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 1

Mark # 60

Depth (m)		Depth (m)		Depth (m)	
<b>Transect 1</b>	0.05	<b>Transect 5</b>	0.40	<b>Transect 9</b>	0.05
Substrate:	0.05	Substrate:	0.60	Substrate:	0.10
gravel/cobble/silt	0.05	mud/gravel/silt	0.80	mud/silt/gravel/cobble	0.10
Water Clarity:	0.10	Water Clarity:	1.00	Water Clarity:	0.15
clear to murky	0.15	murky	1.00	clear to murky	0.15
Channel Feature:	0.15	Channel Feature:	1.00	Channel Feature:	0.20
riffle/pool	0.15	pool	1.00	pool	0.15
Channel Width:	0.10	Channel Width:	0.85	Channel Width:	0.15
7 yards	0.10	8 yards	0.40	3 yards	0.15
<b>0.10</b>	0.05	<b>0.83</b>	0.15	<b>0.15</b>	0.05
<b>Transect 2</b>	0.10	<b>Transect 6</b>	0.25	<b>Transect 10</b>	0.05
Substrate:	0.35	Substrate:	0.35	Substrate:	0.10
mud/silt/gravel	0.45	mud/cobble/gravel/silt	0.40	mud/silt/gravel/cobble	0.10
Water Clarity:	0.50	Water Clarity:	0.50	Water Clarity:	0.15
murky	0.70	murky	0.45	clear to murky	0.15
Channel Feature:	0.75	Channel Feature:	0.45	Channel Feature:	0.15
pool	0.65	pool	0.45	pool	0.10
Channel Width:	0.60	Channel Width:	0.30	Channel Width:	0.15
8 yards	0.40	6 yards	0.25	3 yards	0.15
<b>0.48</b>	0.35	<b>0.38</b>	0.15	<b>0.15</b>	0.15
<b>Transect 3</b>	0.40	<b>Transect 7</b>	0.40	<b>Transect 11</b>	0.05
Substrate:	0.55	Substrate:	0.40	Substrate:	0.10
mud/silt/gravel	0.60	mud/gravel/silt	0.35	mud/silt/cobble/gravel	0.25
Water Clarity:	0.60	Water Clarity:	0.30	Water Clarity:	0.20
murky	0.70	clear to murky	0.30	clear to murky	0.25
Channel Feature:	0.70	Channel Feature:	0.30	Channel Feature:	0.25
pool	0.65	pool	0.25	pool	0.25
Channel Width:	0.65	Channel Width:	0.25	Channel Width:	0.15
9 yards	0.65	4 yards	0.20	3 yards	0.05
<b>0.63</b>	0.35	<b>0.30</b>	0.10	<b>0.18</b>	0.05
<b>Transect 4</b>	0.25	<b>Transect 8</b>	0.05		
Substrate:	0.50	Substrate:	0.05		
mud/silt/gravel	0.60	gravel/cobble	0.15		
Water Clarity:	0.75	Water Clarity:	0.10		
murky	0.50	clear to murky	0.10		
Channel Feature:	0.50	Channel Feature:	0.05		
pool	0.50	riffle	0.05		
Channel Width:	0.50	Channel Width:	0.05		
7 yards	0.45	2 yards	0.10		
<b>0.50</b>	0.25	<b>0.05</b>	0.05		

**Field Data Sheets for Recreational Use Stream Surveys**  
**Data Sheet B - Site Characterization**  
**(must be completed for each site)**

WBID 1337  
 Site # 2

Date and Time: 5/22/2007 10:45

Current Weather Conditions sunny, clear

Weather Conditions for Past 10 days: Rain showers in the area on 5/15

Drought Conditions? No

Site Location (e.g. road crossing) 500yards downstream from road crossing

GPS Mark: 61

Upstream Photo 118 Downstream Photo 119

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<b>None of the Above</b>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	<b>None of the Above</b>	Other	

**Indications of Human Use**

Roads	Rope swings	Foot paths/prints	Dock/platform
<b>Livestock Watering</b> <b>See Picture 119</b>	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

**WBID #** 1337      **Site #** 2  
**Mark #** 61      **Dissolved Oxygen (ppm)** 11  
**Upstream Views Physical Dimensions:** Is there any water present at this view? yes  
 If so, is there an obvious current? yes

**Select one of the following channel features:**

	% of Channel Feature				
Riffle	0				
Run	0				
Pool	100				

**Downstream View's Physical Dimensions:** Is there any water present at this view?

If so, is there an obvious current?


Substrate:

% Cobble	% Gravel	% Sand	% Silt
12	4	0	42
% Mud/Clay	% Bedrock		
42	0		

**Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)**

No floating algae. Little vegetation along banks. Algae on bottom.

### Water Characteristics

Odor	Sewage	Musky	Chemical	<b>None</b>	Other
Color	<b>Clear</b>	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	<b>Other: leaves, detritus</b>
Surface Deposit	Oil	Scum	Foam	<b>None</b>	Other



**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 2

Mark # 61

	Depth (m)
<b>Transect 1</b>	0.05
Substrate:	0.10
mud/silt	0.35
Water Clarity:	0.40
murky	0.45
Channel Feature:	0.50
pool	0.50
Channel Width:	0.45
5 yards	0.45
<b>0.43</b>	0.35
<b>Transect 2</b>	0.20
Substrate:	0.40
mud/silt/cobble	0.30
Water Clarity:	0.30
murky	0.25
Channel Feature:	0.25
pool	0.25
Channel Width:	0.20
3 yards	0.20
<b>0.25</b>	0.20
<b>Transect 3</b>	0.10
Substrate:	0.20
mud/silt	0.25
Water Clarity:	0.40
murky	0.35
Channel Feature:	0.35
pool	0.35
Channel Width:	0.30
3 yards	0.20
<b>0.28</b>	0.20
<b>Transect 4</b>	0.10
Substrate:	0.15
mud/silt	0.25
Water Clarity:	0.30
murky	0.35
Channel Feature:	0.35
pool	0.30
Channel Width:	0.30
4 yards	0.20
<b>0.28</b>	0.15

	Depth (m)
<b>Transect 5</b>	0.10
Substrate:	0.25
mud/silt	0.25
Water Clarity:	0.30
murky	0.30
Channel Feature:	0.35
pool	0.30
Channel Width:	0.30
6 yards	0.20
<b>0.28</b>	0.20
<b>Transect 6</b>	0.30
Substrate:	0.40
mud/silt	0.50
Water Clarity:	0.60
murky	0.60
Channel Feature:	0.60
pool	0.60
Channel Width:	0.40
8 yards	0.30
<b>0.45</b>	0.20
<b>Transect 7</b>	0.10
Substrate:	0.20
mud/silt	0.30
Water Clarity:	0.40
murky	0.30
Channel Feature:	0.30
pool	0.30
Channel Width:	0.25
6 yards	0.15
<b>0.28</b>	0.05
<b>Transect 8</b>	0.20
Substrate:	0.25
mud/silt	0.30
Water Clarity:	0.35
murky	0.35
Channel Feature:	0.30
pool	0.30
Channel Width:	0.25
5 yards	0.20
<b>0.28</b>	0.10

	Depth (m)
<b>Transect 9</b>	0.05
Substrate:	0.10
cobble/mud/silt	0.10
Water Clarity:	0.20
murky	0.30
Channel Feature:	0.15
pool	0.15
Channel Width:	0.10
5 yards	0.05
<b>0.10</b>	0.05
<b>Transect 10</b>	0.05
Substrate:	0.05
mud/cobble/gravel/silt	0.10
Water Clarity:	0.10
clear to murky	0.10
Channel Feature:	0.05
pool	0.05
Channel Width:	0.05
2 yards	0.05
<b>0.05</b>	0.05
<b>Transect 11</b>	0.20
Substrate:	0.25
mud/silt	0.25
Water Clarity:	0.25
murky	0.30
Channel Feature:	0.25
pool	0.20
Channel Width:	0.20
5 yards	0.15
<b>0.23</b>	0.10

**Field Data Sheets for Recreational Use Stream Surveys**  
**Data Sheet B - Site Characterization**  
**(must be completed for each site)**

WBID 1337  
 Site # 3

Date and Time: 5/22/2007 11:30

Current Weather Conditions sunny, clear

Weather Conditions for Past 10 days: Rain showers in the area on 5/15

Drought Conditions? No

Site Location (e.g. road crossing) 1000 yards downstream of crossing

GPS Mark: 62

Upstream Photo 121 Downstream Photo 120

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<b>None of the Above</b>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	<b>None of the Above</b>	Other	

**Indications of Human Use**

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	<b>None of the Above</b>

**WBID #** 1337      **Site #** 3  
**Mark #** 62      **Dissolved Oxygen (ppm)** 11.1  
**Upstream Views Physical Dimensions:** Is there any water present at this view?      yes

If so, is there an obvious current?      yes

**Select one of the following channel features:**

	% of Channel Feature				
Riffle	0				
Run	0				
Pool	100				

**Downstream View's Physical Dimensions:** Is there any water present at this view?

If so, is there an obvious current?


Substrate:

% Cobble	% Gravel	% Sand	% Silt
5	0	0	45
% Mud/Clay	% Bedrock		
50	0		

**Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)**

Some water grasses. No floating algae. Little vegetation along banks.

**Water Characteristics**

Odor	Sewage	Musky	Chemical	<b>None</b>	Other
Color	<b>Clear</b>	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	<b>None</b>	Other
Surface Deposit	Oil	Scum	Foam	<b>None</b>	Other

**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 3

Mark # 62

	Depth (m)
<b>Transect 1</b>	0.05
Substrate:	0.05
mud/silt/cobble	0.05
Water Clarity:	0.10
clear to murky	0.10
Channel Feature:	0.10
pool	0.05
Channel Width:	0.15
4 yards	0.05
<b>0.05</b>	0.05
<b>Transect 2</b>	0.05
Substrate:	0.05
mud/silt	0.05
Water Clarity:	0.10
clear to murky	0.10
Channel Feature:	0.10
pool	0.05
Channel Width:	0.10
2 yards	0.05
<b>0.05</b>	0.05
<b>Transect 3</b>	0.05
Substrate:	0.20
mud/silt	0.25
Water Clarity:	0.25
clear to murky	0.30
Channel Feature:	0.25
pool	0.25
Channel Width:	0.25
4 yards	0.15
<b>0.25</b>	0.15
<b>Transect 4</b>	0.05
Substrate:	0.10
mud/silt	0.25
Water Clarity:	0.25
clear to murky	0.30
Channel Feature:	0.20
pool	0.20
Channel Width:	0.15
3 yards	0.15
<b>0.18</b>	0.10

	Depth (m)
<b>Transect 5</b>	0.10
Substrate:	0.25
mud/silt	0.25
Water Clarity:	0.30
murky	0.35
Channel Feature:	0.40
pool	0.30
Channel Width:	0.30
7 yards	0.25
<b>0.28</b>	0.15
<b>Transect 6</b>	0.10
Substrate:	0.20
mud/silt	0.20
Water Clarity:	0.25
murky	0.30
Channel Feature:	0.30
pool	0.20
Channel Width:	0.20
5 yards	0.15
<b>0.20</b>	0.15
<b>Transect 7</b>	0.15
Substrate:	0.20
mud/silt	0.25
Water Clarity:	0.25
murky	0.25
Channel Feature:	0.20
pool	0.20
Channel Width:	0.15
4 yards	0.05
<b>0.20</b>	0.05
<b>Transect 8</b>	0.05
Substrate:	0.10
mud/silt	0.15
Water Clarity:	0.15
murky	0.20
Channel Feature:	0.15
pool	0.10
Channel Width:	0.10
3 yards	0.10
<b>0.10</b>	0.10

	Depth (m)
<b>Transect 9</b>	0.10
Substrate:	0.10
mud/silt	0.10
Water Clarity:	0.15
murky	0.20
Channel Feature:	0.20
pool	0.15
Channel Width:	0.15
3 yards	0.10
<b>0.13</b>	0.10
<b>Transect 10</b>	0.10
Substrate:	0.10
mud/silt	0.20
Water Clarity:	0.20
murky	0.15
Channel Feature:	0.20
pool	0.15
Channel Width:	0.15
3 yards	0.05
<b>0.15</b>	0.05
<b>Transect 11</b>	0.05
Substrate:	0.05
mud/silt	0.10
Water Clarity:	0.10
murky	0.15
Channel Feature:	0.20
pool	0.20
Channel Width:	0.15
2 yards	0.10
<b>0.10</b>	0.10

**WBID# 1337**



**Site# 1 Photo ID# 117, Upstream**



**Site# 1 Photo ID# 116, Downstream**



**Site# 2 Photo ID# 118, Upstream**



**Site# 2 Photo ID# 119, Downstream / livestock watering**



**WBID# 1337**



**Site# 3 Photo ID# 121, Upstream**



**Site# 3 Photo ID# 120, Downstream**